

Title (en)

METHOD FOR ATTACHING SEMICONDUCTOR COMPONENTS TO SUBSTRATES, AND ARRANGEMENT FOR CARRYING IT OUT

Publication

EP 0330896 A3 19910109 (DE)

Application

EP 89102448 A 19890213

Priority

DE 3806980 A 19880303

Abstract (en)

[origin: EP0330896A2] A diffusion welding process is provided for attaching semiconductor components (3), in particular power semiconductors, to substrates (1). In the process, the surfaces to be joined, which are provided with a noble metal contacting layer, are pressed together at at least 500 kgf/cm² at a moderate temperature of about 150 to 250 DEG C. Components (3) having a structured upper side can be joined to substrates if they are placed, together with a body (17, 18) of elastically deformable material, for example silicone rubber, in a receiving chamber (15a, 15b, 21) which is sealed by a movable die (21) and which transmits the contact pressure. On reaching the contact pressure, the remaining interior space of the receiving chamber is completely filled by the deformable body (17, 18). <IMAGE>

IPC 1-7

H01L 21/603

IPC 8 full level

B23K 20/00 (2006.01); **H01L 21/60** (2006.01); **H01L 21/603** (2006.01)

CPC (source: EP US)

H01L 24/75 (2013.01 - EP US); **H01L 24/80** (2013.01 - EP US); **H01L 24/83** (2013.01 - EP US); **H01L 2224/75315** (2013.01 - EP US); **H01L 2224/8083** (2013.01 - EP US); **H01L 2224/81005** (2013.01 - EP US); **H01L 2224/8319** (2013.01 - EP US); **H01L 2224/83801** (2013.01 - EP US); **H01L 2924/01004** (2013.01 - EP US); **H01L 2924/01005** (2013.01 - EP US); **H01L 2924/01006** (2013.01 - EP US); **H01L 2924/01013** (2013.01 - EP US); **H01L 2924/01014** (2013.01 - EP US); **H01L 2924/01029** (2013.01 - EP US); **H01L 2924/01032** (2013.01 - EP US); **H01L 2924/01033** (2013.01 - EP US); **H01L 2924/01042** (2013.01 - EP US); **H01L 2924/01047** (2013.01 - EP US); **H01L 2924/01068** (2013.01 - EP US); **H01L 2924/01076** (2013.01 - EP US); **H01L 2924/01079** (2013.01 - EP US); **H01L 2924/01082** (2013.01 - EP US); **H01L 2924/1301** (2013.01 - EP US); **H01L 2924/351** (2013.01 - EP US)

Citation (search report)

- [Y] US 3228104 A 19660111 - REIMER EMEIS
- [Y] EP 0242626 B1 19910612
- [A] GB 2067117 A 19810722 - SECR DEFENCE
- [A] PATENT ABSTRACTS OF JAPAN, Band 6, Nr. 55 (E-101)[933], 10. April 1982; & JP-A-56 167 352 (MITSUBISHI) 23-12-1981

Cited by

EP1796137A3; US5379942A; DE102011089762A1; DE102011089762B4; US5158226A; EP0381411A3; DE102013101124A1

Designated contracting state (EPC)

CH DE FR GB IT LI SE

DOCDB simple family (publication)

EP 0330896 A2 19890906; **EP 0330896 A3 19910109**; JP H01256140 A 19891012; US 4903886 A 19900227; US 5067647 A 19911126

DOCDB simple family (application)

EP 89102448 A 19890213; JP 4974389 A 19890301; US 31759689 A 19890301; US 44641489 A 19891205